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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
MT	AA 5, 759, 811	06/02/98	Epstein et al.	435	69.1	11/13/96
	AB 5, 223, 408	06/29/93	Goeddel et al.	435	69.3	07/11/91
	AC 4, 456, 687	06/26/84	Howard Green	435	241	12/01/80
	AD 5, 789, 543	08/04/98	Ingham et al.	530	350	12/30/93
	AE 5, 844, 079	12/01/98	Ingham et al.	530	350	12/14/94
	AF 5, 585, 087	12/17/96	Lustig et al.	424	9.2	06/08/94
	AG 5, 837, 538	11/17/98	Scott et al.	435	325	10/06/95
	AH 5, 747, 507	05/05/98	Ikegaki et al.	514	312	08/10/93
	AI 5,643, 915	07/01/97	Andrulis, Jr. et al.	514	279	06/06/95
	AJ 5, 519, 035	05/21/96	Maiese et al.	514	309	07/02/93
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
MT	AL WO 90/02809	3/22/90	PCT	C 12P	21/00		
	AM WO 92/15679	9/17/92	PCT	C 12N	15/10		
	AN WO 94/28016	12/08/94	PCT	G 07K	13/00		
	AO WO 95/23223	08/31/95	PCT	C 12N	15/00		
	AP WO 95/18856	07/13/95	PCT	C 12N	15/12		
	AQ WO 96/09806	04/04/96	PCT				
	AR WO 96/11260	04/18/96	PCT	C 12N	5/00		
	AS WO 96/16668	06/06/96	PCT	A 61K	38/17		
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	AW WO 98/12326	03/26/98	PCT	C 12N	15/12		
	AX WO 98/14475	04/09/98	PCT	C 07K	14/47		
	AY WO 98/21227	05/22/98	PCT	C 07H	21/04		
	AZ WO 98/30234	07/16/98	PCT	A 61K	38/18		
	BA WO 98/30576	07/16/98	PCT	C 07K	17/100		
	BB WO 98/35020	08/13/98	PCT	C 12N	5/00		

	BC	WO 99/00117	01/07/99	PCT	A 61K	31/00		
123	BD	WO 99/00403	01/07/99	PCT	C 01	21/02		
	BE	WO 99/01468	01/14/99	PCT	G 07K			
	BF	WO 99/10004	03/04/99	PCT	A 61K	38/00		
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	BH	EP 0187 371 A2	07/16/86	European Patent Application				
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	BP	Angier, N., "Biologists find key genes that shape patterning of embryos", <i>New York Times</i> , Jan. 11, 1994, C-1.						
	BQ	Basler, K. and G. Struhl, "Compartment boundaries and the control of <i>Drosophila</i> limb pattern by Hedgehog protein", <i>Nature</i> 368 :208-214 (1994).						
	BR	Basler, K. et al., "Control of cell pattern in the neural tube: Regulation of cell differentiation by <i>dorsalin-1</i> , a novel TGF β family member", <i>Cell</i> 73 :687-702 (1993).						
	BS	Bass, S. et al., "Hormone phage: An enrichment method for variant proteins with altered binding properties", <i>PROTEINS: Structure, Function, and Genetics</i> 8 :309-314 (1990).						
	BT	Bejsovec, A. and E. Wieschaus, "Segment polarity gene interactions modulate epidermal patterning in <i>Drosophila</i> embryos", <i>Development</i> 119 :501-517 (1993).						
	BU	Bienz, M., "Homeotic genes and positional signalling in the <i>Drosophila</i> viscera", <i>TIG</i> 10 :22-26 (Jan. 1994).						
	BV	Bitgood, M. and A. McMahon, "Hedgehog and Bmp genes are coexpressed at many diverse sites of cell-cell interaction in the mouse embryo", <i>Dev. Biol.</i> 172 (1):126-138 (1995).						
	BW	Blair, S. S., "Hedgehog digs up an old friend", <i>Nature</i> , 373 :656-657 (23 Feb. 1995).						
	BX	Brand-Saberi, B. et al., "The ventralizing effect of the notochord on somite differentiation in chick embryos", <i>Anat. Embryol.</i> 188 :239-245 (1993).						
	BY	Brockes, J., "We may not have a morphogen", <i>Nature</i> 350 :15 (1991).						
	BZ	Bumcrot, D. A. et al., "Proteolytic processing yields two secreted forms of sonic hedgehog", <i>Mol. Cell. Biol.</i> 15 (4):2294-2303 (April 1995).						
	CA	Bumcrot, D. A. and A. McMahon, "Sonic hedgehog: Making the gradient", <i>Chem. Biol.</i> 3 (1):13-16 (Jan 1996).						
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	CD	Coffman, et al., "Xotch, the <i>Xenopus</i> homolog of <i>Drosophila</i> notch", <i>Science</i> 249 :1438-1441 (1990).						


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CF	Curry, et al., "Sequence analysis reveals homology between two proteins of the flagellar radial spoke", <i>Mol. Cell. Biol.</i> 12 :3967-3977 (1992).
CG	Davidson, E. H., "How embryos work: a comparative view of diverse modes of cell fate specification", <i>Develop.</i> 108 :365-389 (1990).
CH	Davis, A. P. and M. R. Capecchi, "Axial homeosis and appendicular skeleton defects in mice with a targeted disruption of <i>hoxd-1</i> ", <i>Devel.</i> 120 :2187-2198 (1994).
CI	Dickinson, W., "Molecules and morphology: Where's the homology", <i>TIG</i> 11 (4):119-120 (1995).
CJ	Dingemans, M. A. et al., "The expression of liver-specific genes within rat embryonic hepatocytes is a discontinuous process", <i>Differentiation</i> 56 :153-162 (1994).
CK	Dollé, P. et al., "Coordinate expression of the murine <i>Hox-5</i> complex homeobox-containing genes during limb pattern formation", <i>Nature</i> 342 :767-772 (1989).
CL	Dollé, P. et al., "Disruption of the <i>Hoxd-13</i> gene induces localized heterochrony leading to mice with neotenic limbs", <i>Cell</i> 75 :431-441 (1993).
CM	Echelard, Y. et al., "Sonic hedgehog, a member of a family of putative signaling molecules, is implicated in the regulation of CNS polarity", <i>Cell</i> 75 :1417-1430 (1993).
CN	Ekker, S. et al., "Distinct expression and shared activities of members of the hedgehog gene family of <i>xenopus laevis</i> ", <i>Devel.</i> 121 (8):2337-2347 (Aug. 1995).
CO	Ericson, J. et al., "Sonic hedgehog induces the differentiation of ventral forebrain neurons: a common signal for ventral patterning within the neural tube", <i>Cell</i> 81 (5):747-756 (June 1995).
CP	Ettelaie, C. et al., "The effect of lipid peroxidation and lipolysis on the ability of lipoproteins to influence thromboplastin activity", <i>Biochim. Biophys. Acta.</i> 1257 (1):25-30 (June 1995).
CQ	Fahrner, K. et al., "Transcription of <i>H-2</i> and <i>Qa</i> genes in embryonic and adult mice", <i>EMBO J.</i> 6 :1265-1271 (1987).
CR	Fallon, J. F. et al., "FGF-2: Apical ectodermal ridge growth signal for chick limb development", <i>Science</i> 264 :104-107 (1994).
CS	Fan, C. et al., "Long-range sclerotome induction by sonic hedgehog: Direct role of the amino-terminal cleavage product and modulation by the cyclic AMP signaling pathway", <i>Cell</i> 81 :457-465 (5 May 1995).
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CU	Forbes, A. J. et al., "Genetic analysis of <i>hedgehog</i> signaling in the <i>Drosophila</i> embryo", <i>Devel.</i> 119 (Suppl.):115-124 (1993).
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CW	Gallop, M. et al., "Applications of combinatorial technologies to drug discovery. 1. Background and peptide combinatorial libraries", <i>J. Med. Chem.</i> 37 (9):1233-1251 (1994).
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CY	Gurdon, J. B., "The generation of diversity and pattern in animal development", <i>Cell</i> 68 :185-199 (1992).
CZ	Halpern, M. E. "Induction of muscle pioneers and floor plate is distinguished by the zebrafish <i>no tail</i> mutation", <i>Cell</i> 75 :99-111 (1993).
DA	Gustin, K. et al., "Characterization of the role of individual protein binding motifs within the hepatitis B virus enhancer 1 on X promoter activity using linker scanning mutagenesis", <i>Virology</i> 193 :653-660 (1993).
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DC	Hamburger, V. and H. L. Hamilton, "A series of normal stages in the development of the chick embryo", <i>J. Morph.</i> 88 :49-92 (1951).

DD	Hammerschmidt, M. et al., "The world according to hedgehog", <i>TIG</i> 13(1):14-21 (1997).
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DG	Harmon, C. S. et al., "Evidence that activation of protein kinase A inhibits human hair follicle growth and hair fibre production in organ culture and DNA synthesis in human and mouse hair follicle organ culture", <i>British J. Dermatol.</i> 136:853-858 (1997).
DH	Hatta, K. et al., "The cyclops mutation blocks specification of the floor plate of the zebrafish central nervous system", <i>Nature</i> 350:339-341 (1991).
DI	Heberlein, U. et al., "The TGB β homolog <i>dpp</i> and the segment polarity gene <i>hedgehog</i> are required for propagation of a morphogenetic wave in the <i>Drosophila</i> retina", <i>Cell</i> 75:913-926 (1993).
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DK	Hidalgo, A. and P. Ingham, "Cell patterning in the <i>Drosophila</i> segment: spatial regulation of the segment polarity gene <i>patched</i> ", <i>Devel.</i> 110:291-301 (1990).
DL	Hooper, J. and M. Scott, "The <i>Drosophila patched</i> gene encodes a putative membrane protein required for segmental patterning", <i>Cell</i> 59:751-765 (1989).
DM	Hynes, R. O., "Integrins: A family of cell surface receptors", <i>Cell</i> 48:549-554 (1987).
DN	Hynes, R. O., "Induction of midbrain dopaminergic neurons by Sonic hedgehog", <i>Neuron</i> 15(1):35-44 (July 1995).
DO	Ingham, P. W., "Signaling by hedgehog family proteins in <i>Drosophila</i> and vertebrate development", <i>Curr. Opin. Genet. Dev.</i> 5(4):478-484 (Aug 1995).
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DQ	Ingham, P. W., "Localized <i>Hedgehog</i> activity controls spatial limits of wingless transcription in the <i>Drosophila</i> embryo", <i>Nature</i> 366:560-562 (1993).
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DS	Ingham, P. W. et al., "Role of the <i>Drosophila patched</i> gene in positional signaling", <i>Nature</i> 353:184-187 (1991).
DT	Izpisua-Belmonte, J. -C. et al., "Expression of the homeobox <i>Hox-4</i> genes and the specification of position in chick wing development", <i>Nature</i> 350:585-589 (1991).
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EB	Johnson, R. L. et al., "Sonic hedgehog: a key mediator of anterior-posterior patterning of the limb and dorso-ventral patterning of axial embryonic structures" <i>Biochem. Soc. Trans.</i> 22(3):569-574 (Aug. 1994).

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ED	Kalderon, D., "Morphogenetic signalling. Responses to hedgehog" <i>Curr. Biol.</i> 5 (6):580-582 (June 1995).
EE	Koonin, E., "A protein splice-junction motif in hedgehog family proteins", <i>Trends Biochem. Sci.</i> 20 (4):141-142 (April 1995).
EF	Kornblihtt, A. R. et al., "Primary structure of human fibronectin: differential splicing may generate at least 10 polypeptides from a single gene", <i>EMBO J.</i> 4 :1755-1759 (1985).
EG	Kornfeld, R. and S. Kornfeld, "Assembly of asparagine-linked oligosaccharides", <i>Ann. Rev. Biochem.</i> 54 :631-664(1985).
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EP	Levin, M. et al., "A molecular pathway determining left-right asymmetry in chick embryogenesis", <i>Cell</i> 82 (5):803-814 (Sept. 8, 1995).
EQ	Li, W. et al., "Function of protein kinase A in hedgehog signal transduction and drosophila imaginal disc development", <i>Cell</i> 80 (4):553-562(Feb. 1995).
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ES	Lumsden, A. and A. Graham, "Neural patterning: A forward role for hedgehog", <i>Curr. Biol.</i> 5 (12):1347-1350 (Dec. 1995).
ET	Ma, C. et al., "Molecular cloning and characterization of rKlk10, a cDNA encoding T-kininogenase from rat submandibular gland and kidney", <i>Biochem.</i> 31 (44):10922-10928 (1992).
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EX	Maccabe, J. A. and B. W. Parker, "The target tissue of limb-bud polarizing activity in the induction of supernumerary structures", <i>J. Embryol. Exp. Morph.</i> 53 :67-73 (1979).
EY	Maiese, K. et al., "Protein kinases modulate the sensitivity of hippocampal neurons to nitric oxide toxicity and anoxia", <i>J. Neurosci. Res.</i> 36 :77-87 (1993).
EZ	Marti, E. et al., "Distribution of Sonic hedgehog peptides in the developing chick and mouse embryo", <i>Devel.</i> 121 (8):2537-2547 (Aug. 1995).
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FB	McGinnis, W. and R. Krumlauf, "Homeobox genes and axial patterning", <i>Cell</i> 68:283-302 (1992).
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FK	Nohno, T. et al., "Involvement of the Sonic hedgehog gene in chick feather formation", <i>Biochem. Biophys. Res. Comm.</i> 206(1): 33-39 (Jan. 1995).
FL	O'Farrell, P. H., "Unanimity waits in the wings", <i>Nature</i> 368:188-189 (1994).
FM	Parisi, M. J. et al., "The role of the hedgehog/patched signaling pathway in epithelial stem cell proliferation: From fly to human", <i>Cell Res.</i> 8:15-21 (1998).
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FQ	Perrimon, N. et al., "Generating lineage-specific markers to study <i>Drosophila</i> development", <i>Develop. Genet.</i> , 12:238-252 (1991).
FR	Perrimon, N., "Hedgehog and beyond", <i>Cell</i> 80:517-520 (24 Feb. 1995).
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FT	Phillis, J. W. and M. H. O'Regan, "Mechanisms of glutamate and aspartate release in the ischemic rat cerebral cortex", <i>Brain Res.</i> 730:150-164 (1996).
FU	Placzek, M. et al., "Induction of floor plate differentiation by contact-dependent, homeogenetic signals", <i>Development</i> 117: 205-218 (1993).
FV	Placzek, M. et al., "Orientation of Commissural Axons <i>in vitro</i> in response to a floor plate-derived chemoattractant", <i>Develop.</i> 110:19-30 (1990).
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FY	Reeck, et al., "'Homology' in proteins and nucleic acids: A terminology muddle and a way out of it", <i>Cell</i> 50:667 (28 Aug. 1987).
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GA	Riddle, R. D. et al., "Sonic hedgehog mediates the polarizing activity of the ZPA", <i>Cell</i> 75 :1401-1416, (31 Dec. 1993).
GB	Riddle, R. D. et al. "Induction of the LIM homeobox gene <i>Lmx1</i> by WNT7a establishes dorsoventral pattern in the vertebrate limb", <i>Cell</i> 83 :631-640 (17 Nov. 1995).
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GD	Roberts, D. et al., "Sonic hedgehog is an endodermal signal inducing Bmp-4 and Hox genes during induction and regionalization of the chick hindgut", <i>Develop.</i> 121 (10):3163-3174 (Oct. 1995).
GE	Roelink, H. et al., "Floor plate and motor neuron induction vhh-1, a vertebrate homolog of hedgehog expressed by the notochord", <i>Cell</i> 76 :761-775 (25 Feb. 1994).
GF	Roelink, H. et al., "Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of sonic hedgehog autoproteolysis", <i>Cell</i> 81 :445-455 (5 May 1995).
GH	Sachiko, I. et al., "Sonic hedgehog is expressed in epithelial cells during development of whisker, hair and tooth", <i>Biochem. Biophys. Res. Commun.</i> 218 :688-693 (1996).
GI	Satoh, S. et al., "Neuroprotective properties of a protein kinase inhibitor against ischaemia-induced neuronal damage in rats and gerbils", <i>Br. J. Pharmacol.</i> 118 :1592-1596 (1996).
GJ	St. Jacques, B. et al., "Sonic hedgehog signaling is essential for hair development", <i>Curr. Biol.</i> 8 :1058-1068 (1998).
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